

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Hugh L. Brunk

Art Unit: 2134

Application No.: **10/045,654**

Confirmation No.: 1906

Filed: October 26, 2001

For: INCLUDING A METRIC IN A  
DIGITAL WATERMARK FOR  
MEDIA AUTHENTICATION

**Via Electronic Filing**

Examiner: W. Powers

Date: September 27, 2006

**REPLY BRIEF**

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Sir:

Appellants respectfully request the Board of Patent Appeals and Interferences (hereafter the “Board”) to reverse the outstanding final rejections of the claims.

This Reply Brief responds to the Examiner’s Answer mailed August 2, 2006.

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### **ALLOWED CLAIMS**

Appellants appreciate the indication that claims 1-14 are allowed and that claims 20-22 recite allowable subject matter and are merely objected to for their dependency on a rejected base claim. Please see the Examiner's Answer, page 6, line 1 of paragraph 10 – page 7, line 2.

### **STATUS OF AMENDMENTS**

An Amendment Accompanying Appeal Brief was concurrently filed with our Appeal Brief on May 15, 2006. Entry of this amendment was believed proper since it merely canceled claims 10 and 24.

But the Examiner's Answer on page 2, paragraph 4, states: "No amendment after final has been filed."

We surmise that the Examiner did not consider the Amendment Accompanying Appeal Brief since claim 24 is referenced on page 5, line 5, of the Examiner's Answer and claim 10 seems included with allowed claims on page 6, line 2 of paragraph 10.

We respectfully request clarification as to whether the Amendment Accompanying Appeal Brief was entered.

### **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

1. Claims 15-19, 23 and 25-27 stand finally rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,330,672 (hereafter "the Shur patent").

### **ARGUMENT**

Appellants respectfully request that the final rejection of claims 15-19, 23 and 25-27 be reversed since the Shur patent fails to teach or suggest all of the elements of these claims.

***Rejections under U.S.C. 102(e) over the Shur patent***Claim 25

Claim 25 recites:

25. *A digital watermarking method comprising:*  
*embedding a digital watermark in a media signal, the digital watermark being designed to be lost or to degrade upon at least one form of signal processing;*  
*determining a metric for the embedded digital watermark, the metric comprising a benchmark for the embedded digital watermark;*  
*embedding the metric in the media signal; and*  
*embedding data in the media signal, the data indicating how the metric was determined.*

We respectfully refer the Board to our Appeal Brief, pages 9-11, where we discuss three reasons supporting reversal of the final rejection of claim 25. Two points merit further discussion in view of the Examiner's Answer.

First, the Examiner's Answer seems to suggest that the feature: "*the digital watermark being designed to [be lost or] degrade upon at least one form of signal processing*" is the same as "changing" a bit value or number, since a permissible number of plays is decremented with each play. Please see page 7, lines 12-18.

But changing a number does not equate to degrading a digital watermark in a media signal upon signal processing in the context of claim 25.

We consulted the popular online Wikipedia to see if our interpretation of this claim feature, based on the teachings of the specification, was removed from reality. We found that it isn't. We started on the Wikipedia home page, [http://en.wikipedia.org/wiki/Main\\_Page](http://en.wikipedia.org/wiki/Main_Page), and typed the word "degrade" into the search box. The closest hit was the term "degradation" – a related word. The resulting Wikipedia description of "degradation" includes:

“In telecommunication, degradation, which may be categorized as either “graceful” or “catastrophic”, has the following meanings:

1. The deterioration in quality, level, or standard of performance of a functional unit.
2. In communications, a condition in which one or more of the required performance parameters fall outside predetermined limits, resulting in a lower quality of service.”

While this description is not perfect, since it is couched in the field of telecommunications, it is still insightful to see how a similar term – degradation – is used in some technical arts.

The Wikipedia description implies signal deterioration, corruption or lowered performance parameters. This description is consistent with one or more examples provided in the specification and as discussed in the Appeal Brief. Changing a bit value or number is not enough to meet the features recited in claim 25.

Second, the Examiner’s Answer applies the Shur patent at Col. 4, lines 13-34, to meet the feature of “embedding data in the media signal, the data indicating how the metric was determined”. Please see the Examiner’s Answer, page 8, lines 8-13.

For context, the Examiner’s Answer maps claim 25’s “metric” to a permitted number of plays carried by a digital watermark. Please see page 8, lines 3-5, of the Examiner’s Answer.

Following the Examiner’s Answer’s line of reasoning, if the Shur patent is to anticipate claim 25 it must teach that the embedded data indicates how the metric was determined; and, more precisely, the Shur patent needs to indicate how the permitted number of plays was determined.

While the cited passage, Col. 4, lines 13-34, discusses several types of data carried by a watermark, it does not specify a watermark carrying information indicating how a permitted number of plays is determined. We see mention of indicia indicating a “form of the transaction”. Please see the Shur patent at Col. 4, line 24-26. But the related example recites: “If the

transaction is a limited play license defined by a number of plays, the watermark may comprise data indicating the number of licensed plays.” See Col. 4, lines 27-30. This example is silent with respect to including watermarking information indicating how the number of plays is determined, and instead includes data indicating the number itself.

We respectfully request reversal of the final rejection of claim 25.

Claim 19

Claim 19 recites:

19. *A digital watermarking method comprising:*  
*embedding a digital watermark in a media signal;*  
*analyzing the digital watermark embedded in the media signal to determine a baseline state for the digital watermark;*  
*embedding first information in the media signal, the first information corresponding to the baseline state of the digital watermark; and*  
*embedding second information in the media signal, the second information corresponding to a rendering channel through which the media signal will be rendered.*

We respectfully refer the Board to our Appeal Brief on pages 13-14 for reasons supporting reversal of the final rejection.

One point merits further discussion in view of the Examiner’s Answer.

Claim 19 recites, in combination with other features, i) embedding first information corresponding to a baseline state of a digital watermark; and ii) embedding second information in the media signal, the second information corresponding to a rendering channel through which the media signal will be rendered.

The second information is in addition to first information.

The Examiner's Answer seems to suggest that the Shur patent teaches second information by discussing "data that limits the permissible number of plays" (e.g., a number). Please see page 9, lines 13-14, of the Examiner's Answer.

But the Examiner's Answer applies this same feature (i.e., a permitted number of plays) to teach the first information. Please see the Examiner's Answer page 5, lines 10-11 ("c. Embedding the number of plays allowed for the digital data in the media stream (col. 10, lines 1-11).")<sup>1</sup>

Having the permitted number of plays read on both the first information (corresponding to a baseline state of the watermark) and the second information (corresponding to the rendering channel) stretches the Shur patent beyond a fair and reasonable reading of that work.

We respectfully request reversal of the final rejection of claim 19.

#### Claim 15

Claim 15 recites "embedding a digital watermark in a media signal, *the digital watermark being designed to be lost or to predictably degrade upon at least one form of signal processing,*" in combination with other features.

We respectfully refer the Board to our remarks on pages 14-16 of the Appeal Brief, and by way of analogy, to our "degrade" remarks above with respect to claim 25.

And we respectfully request that the final rejection of claim 15 be reversed.

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<sup>1</sup> There seems to be a contradiction in the Examiner's Answer. On page 5, under the "claims 19 and 24" heading, the Examiner's Answer applies the Shur patent's discussion of a number of permitted plays to meet the first information recited in claim 19, and the encoding algorithm to meet the second information recited in claim 19. We addressed *this* rejection in the Appeal Brief. But on page 9, lines 9-19, of the Examiner's Answer, a new position is presented that the recited second information is taught by the number of permitted plays.

**CONCLUSION AND REQUEST FOR REVERSAL**

The Shur patent fails to teach all of the limitations of the finally rejected claims.  
Appellants respectfully request that the Board reverse the final rejection of these claims.

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Date: September 27, 2006

Customer No.: 23735

Telephone: 503-469-4685

FAX: 503-469-4777

Respectfully submitted,

DIGIMARC CORPORATION

By 

Steven W. Stewart  
Registration No. 45,133